

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (currently amended) An apparatus for detecting chemical agents comprising:

a sample introduction unit for introducing a test sample to an ion source without passing through a separation system;

~~an-said~~ ion source ~~for~~ positively ionizing ~~an-said~~ introduced sample by corona discharge to produce positive ions;

a mass spectrometer unit for analyzing the mass of said positive ions produced in said sample ionized by said ion source; and

a measurement process unit for measuring positive ions separated by ~~the-said~~ mass spectrometer unit, and for, on the basis of a signal of measurement results derived from a chemical agent to be detected, deciding whether said test sample is ~~a-said~~ chemical agent to be detected.

Claim 2 (canceled)

3. (original) A detection apparatus according to Claim 1, wherein a decision in said measurement process unit is made by monitoring the strength of ions derived from said chemical agent to be detected.

4. (original) A detection apparatus according to Claim 1, wherein a decision in said measurement process unit is made by monitoring the strength of ions having a value

of m/z (mass-to-charge ratio) derived from said chemical agent to be detected.

5. (original) A detection apparatus according to Claim 4, wherein said measuring process unit includes a database having said value of m/z stored therein.

6. (currently amended) A detection apparatus according to Claim 5, wherein said ~~value~~values of m/z ~~is~~are 99 and 141.

7. (currently amended) A detection apparatus according to Claim 5, wherein said ~~value~~values of m/z ~~is~~are 99, 183, and 365 and wherein said decision is made by at least two of ~~these~~said values.

8. (original) A detection apparatus according to Claim 1, wherein said ion source has a needle electrode and an opposite electrode for generating corona discharge.

9. (original) A detection apparatus according to Claim 8, wherein a sample introduced from said sample introduction unit is made to flow from said opposite electrode towards said needle electrode.

10. (original) A detection apparatus according to Claim 9, wherein said opposite electrode has an opening, and said sample introduced from said sample introduction unit is guided through said opening to said ion source, and is made to flow towards said needle electrode, and discharged to the outside by suction pump.

11. (original) A detection apparatus according to Claim 9, wherein in a process that

primary ions generated by corona discharge occurring between said needle electrode and said opposite electrode are moved towards the opening of said opposite electrode, ions generated by an ionizing reaction of said sample with said primary ions are sent through said opening of said opposite electrode to said mass spectrometer unit.

12. (original) A detection apparatus according to Claim 1, wherein said ion source uses atmospheric pressure chemical ionization.

13. (original) A detection apparatus according to Claim 1, wherein the temperature of said ion source is set at 150°C or lower.

14. (currently amended) A detection apparatus according to Claim 1, wherein in a differential exhaust portion of said mass spectrometer unit, a drift voltage of 30V~90V is applied between an electrode 37a-with an orifice on the an ion entrance side of said differential exhaust portion and an electrode 37b-with an orifice on the an ion outlet side of said differential exhaust portion.

15. (original) A detection apparatus according to Claim 1, wherein said chemical agent to be detected is isopropyl methylphosphonofluoridate or pinacolyl methylphosphono-fluoridate.

16. (currently amended) An apparatus for detecting a chemical agent comprising:
a sample introduction unit for introducing, heating and vaporizing a test sample so as to introduce said vaporized test sample to an ion source without

passing through a separation system;

~~an said ion source for positively ionizing a sample said introduced~~
~~vaporized in said test sample introduction unit so as to produce positive ions by~~
corona discharge;

a mass spectrometer unit for analyzing the mass of positive ions
generated by said ion source; and

a measurement process unit for measuring said positive ions
separated by said mass spectrometer unit, and for determining whether or not said
test sample is a chemical agent to be detected based on a signal of a measured
result derived from a chemical agent to be detected.

17. (currently amended) A method for detecting a chemical agent comprising the
steps of:

introducing a test sample to an ionizer without passing through a
separation system;

positively ionizing ~~a the~~ test sample introduced to the ionizer by corona
discharge to thereby generate positive ions;

performing analyzing of the mass of generated positive ions; and
measuring the positive ions analyzed by mass spectrometry and
determining based on a signal of a measured result derived from a chemical agent to
be detected whether or not said sample is ~~a the~~ chemical agent to be detected.

18. (currently amended) A method for detecting a chemical agent comprising the
steps of:

heating and vaporizing a test sample which is introduced to an ionizer

without passing through a separation system;

positively ionizing a-the vaporized test sample introduced to the ionizer
by corona discharge to thereby generate positive ions;

performing analyzing of the mass of generated positive ions; and

measuring the positive ions analyzed by mass spectrometry and
determining based on a signal of a measured result derived from a chemical agent to
be detected whether or not said vaporized sample is a-the chemical agent to be
detected.